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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,426	08/27/2003	Tadahiro Ishizaka	010986.52734US	3993

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EXAMINER

MOORE, KARLA A

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,426

Applicant(s)

ISHIZAKA ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0206.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,108,190 to Nagasaki in view of European Patent Publication No. 1 052 309 A2 to Bondestam et al.

4. Nagasaki discloses a processing apparatus substantially as claimed and comprising: a placement stage (Figures 1a and 1b, 3; column 2, rows 55-60) made of ceramics or a metal matrix composite for location inside a process chamber that an object (W) to be processed is placed thereon; a heating device (6; column 2, rows 63-64) incorporated into the placement stage; a support member (11; column 3, rows 12-17) made of a metal matrix composite for supporting said placement stage; and a cooling mechanism (column 1, rows 40-44 and column 3, rows 49-52) located in the vicinity of the support member.

5. However, while Nagasaki does teach that the support member may be joined to the metallic walls of a processing chamber (column 3, rows 49-52), Nagasaki fail to explicitly teach the processing apparatus comprising a process chamber made of metal for applying a process to an object to processed

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placed in the process chamber by supplying a process gas to the object to be processed and a seal member located between said support member and a wall surface of said process chamber.

6. Bondestam et al. teach a processing apparatus comprising a process chamber/wall (multiple part numbers: Figure 3, 9 and 10; abstract) for applying a process to an object to be processed placed in the process chamber by supplying a process gas (abstract) to the object to be processed and a seal member (see paragraph 37) located between a movable support member (18) and a wall of said process chamber. The support member is formed as part of a wall (a bottom plate) of said process chamber (see Figure 3). The apparatus is provided as such for the purpose of improving the cleanliness of the substrate load chamber and reducing the degree of substrate contamination (abstract).

7. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a processing apparatus comprising a process chamber, movable support member and sealing means in Nagasaki in order to improve the cleanliness of the substrate load chamber and reduce the degree of substrate contamination as taught by Bondestam et al.

8. With respect to claim 2, said support member is joined to a surface of said placement stage opposite to a surface on which the object to be processed is placed (see Figures 1a and 1b).

9. With respect to claim 3, said support member has a substantially flat shape, and an entire surface of said placement stage opposite to a surface on which the object to be processed is placed is joined to a flat surface of said support member (via braze material 9; see Figures 1a and 1b). Examiner notes that in Figures 1a and 1b there is a miniscule portion of the area of the support member that does not *appear* to be joined to the surface of the placement stage; however, Nagasaki teaches that the braze material is chosen to increase the heat transfer characteristic between the support member and the placement stage (column 4, rows 29-32). Therefore, it would have been obvious to one of ordinary skill in the art that the more area covered by the heat transfer material the better the heat transfer characteristic would be.

10. With respect to claim 5, in Bondestam et al., said support member is formed as part of a wall (a bottom plate) of said process chamber (see Figure 3).

11. With respect to claim 6, Nagasaki teaches that said cooling means includes a coolant passage formed in said support member (column 1, rows 40-44 and column 3, rows 49-52).

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12. With respect to claim 7, Bondestam et al., teach that a cooling mechanism may include a passage formed in a wall of said process chamber in order to establish a cool zone between two hot spots (paragraph 35).

13. With respect to claim 8, said support member in Nagasaki is joined to said placement stage by blazing (column 4, rows 16 and 17).

14. With respect to claim 9, as noted above, in Bondestam et al. the support member is in the vicinity of the seal member. Thus, a cooling mechanism in Nagasaki that is located in the vicinity of the support member would also be in the vicinity of the seal member.

15. With respect to claim 10, Nagasaki and Bondestam et al. disclose the invention substantially as claimed and as described above. Nagasaki further teaches that the placement stage and support member are joined by brazing using an aluminum alloy powder such as JIS AC9B allow, which contains titanium. It is also known in the art to conduct a brazing process in an inert atmosphere such as nitrogen or argon. One of ordinary skill in the art would have further been able to find an optimal processing temperature for achieving optimal processing results.

Response to Arguments

15. Applicant's arguments filed 16 December 2005 have been fully considered but they are not persuasive.

16. In response to Applicant's argument that neither Nagasaki or Bondestam has a primary purpose of addressing susceptor cracking due to excessive thermal stress and therefore no suggestion to combine them exists, it is noted that the courts have ruled the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

17. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800

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F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). While Bondestam does not individually teach the claimed invention; it does provide motivation for providing a moveable support member as part of a wall of a process chamber. Nagasaki teaches providing a support member out of Applicant's claimed material. Therefore, the combination of the references suggests the claimed invention and neither reference teaches away. Rather, they provide complementary teachings for arriving at the claimed invention.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USP 4504007 and USP 5561321 teach conventional brazing processes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore
Patent Examiner
Art Unit 1763
27 February 2006